

(19) World Intellectual Property  
Organization  
International Bureau



23 DEC 2004



(43) International Publication Date  
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number  
**WO 2004/003123 A3**

- (51) International Patent Classification?: **C11D 3/386**, 17/00, 3/43, 3/04
- (21) International Application Number: **PCT/GB2003/002795**
- (22) International Filing Date: **30 June 2003 (30.06.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
0214999.5 28 June 2002 (28.06.2002) GB  
0219800.0 24 August 2002 (24.08.2002) GB
- (71) Applicant (for all designated States except MN, US): **RECKITT BENCKISER N.V. [NL/NL]**; Kantoorgebouw De Appelaer, De Fruittuinen 2-12, NL-2132 NZ Hoofddorp (NL).
- (71) Applicant (for MN only): **RECKITT BENCKISER (UK) LIMITED [GB/GB]**; 103-105 Bath Road, Slough, Berkshire SL1 3UH (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **FREGONESE, Daniele [IT/DE]**; Reckitt Benckiser Produktions GmbH, Benckiserplatz 1, 67059 Ludwigshafen (DE). **HOUSMEKERIDES, Chris, Efsthios [GR/DE]**; Reckitt Benckiser Produktions GmbH, Benckiserplatz 1, 67059 Ludwigshafen (DE). **WIEDEMANN, Ralf [DE/DE]**; Reckitt Benckiser Produktions GmbH, Benckiser Platz 1, 67059 Ludwigshafen (DE). **GUZMANN, Marcus [DE/DE]**; Talstrasse 13, 69181 Leimen (DE). **KAISER, Roger [DE/DE]**; Reckitt Benckiser Produktions GmbH, Benckiserplatz 1, 67059 Ludwigshafen (DE). **RICHTER, Marcus [DE/DE]**; Reckitt Benckiser Produktions GmbH, Benckiserplatz 1, 67059 Ludwigshafen (DE).
- (74) Agents: **BOWERS, Craig, M. et al.**; Reckitt Benckiser plc, Group Patents Department, Dansom Lane, Hull HU8 7DS (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declarations under Rule 4.17:**
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
  - of inventorship (Rule 4.17(iv)) for US only
- Published:**
- with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 22 April 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETERGENT COMPOSITION

(57) Abstract: The present invention comprises a detergent composition comprising an enzyme. The enzyme is at least partially encapsulated within water-soluble particles in a gel. The particles comprise a water-soluble encapsulating agent. The particles have a migration speed in the gel of less than one centimetre per month.

WO 2004/003123 A3

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 03/02795

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C11D3/386 C11D17/00 C11D3/43 C11D3/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No.                         |
|------------|--|---|
| X          | WO 01/038471 A (HENKEL KGAA)<br>31 May 2001 (2001-05-31)                           | 1, 4-6,<br>13,<br>16-19,<br>25, 27, 30        |
| A          | claims 8, 9; table 1   | 2, 3,<br>7-12, 14,<br>15,<br>20-24,<br>28, 29 |
|            | -----<br>-/-   |   |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the International search

18 February 2004

Date of mailing of the International search report

24 02. 2004

Name and mailing address of the ISA  
European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Saunders, T

# INTERNATIONAL SEARCH REPORT

onal Application No  
PCT/GB 03/02795

| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT |   |                                  |
|--|---|----------------------------------|
| Category *   | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.            |
| X  | <p>DATABASE WPI<br/>Section Ch, Week 198824<br/>Derwent Publications Ltd., London, GB;<br/>Class A97, AN 1988-165838<br/>XP002259152<br/>&amp; JP 63 105098 A (SHOWA DENKO KK)<br/>10 May 1988 (1988-05-10)</p> | 1,4,16,<br>27,30                 |
| A  | abstract  | 2,3,<br>5-15,<br>17-26,<br>28,29 |
| A  | <p>-----<br/>WO 93/22417 A (UNILEVER PLC; UNILEVER NV)<br/>11 November 1993 (1993-11-11)<br/>example 5</p>  | 1-30                             |
| A  | <p>-----<br/>US 5 698 507 A (GORLIN PHILIP A ET AL)<br/>16 December 1997 (1997-12-16)<br/>example 1A</p>  | 1-30                             |
| A  | <p>-----<br/>GB 2 140 819 A (COLGATE PALMOLIVE CO)<br/>5 December 1984 (1984-12-05)<br/>claim 10; example 3A</p>  | 1-30                             |
| A  | <p>-----<br/>WO 01/029167 A (SONG BRIAN XIAOQING ;<br/>PROCTER &amp; GAMBLE (US))<br/>26 April 2001 (2001-04-26)<br/>Formula C<br/>page 2, line 15 - line 24<br/>-----</p>                                      | 1-30                             |

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 03/02795

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-27, 29 (in part), 30 (in part)

Aqueous detergent composition comprising an enzyme  
encapsulated within water-soluble particles in a gel.  
---

2. claims: 28, 29 (in part), 30 (in part)

Aqueous boron-free detergent composition comprising an  
enzyme, a stabilising amount of an organic water-miscible  
solvent and a water soluble ionic salt.  
---

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 03/02795

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s)  | Publication<br>date  |
|---|---|---------------------|---|--|
| WO 0138471                                | A | 31-05-2001          | DE 19956382 A1<br>AU 2158801 A<br>CA 2326758 A1<br>WO 0138471 A1  | 31-05-2001<br>04-06-2001<br>24-05-2001<br>31-05-2001   |
| JP 63105098                               | A | 10-05-1988          | JP 2062090 C<br>JP 7088517 B  | 10-06-1996<br>27-09-1995   |
| WO 9322417                                | A | 11-11-1993          | US 5281357 A<br>AU 4261393 A<br>DE 69303293 D1<br>DE 69303293 T2<br>WO 9322417 A1<br>EP 0672102 A1<br>ES 2091001 T3<br>JP 7506137 T<br>US 5281355 A<br>US 5385959 A<br>ZA 9303026 A   | 25-01-1994<br>29-11-1993<br>25-07-1996<br>21-11-1996<br>11-11-1993<br>20-09-1995<br>16-10-1996<br>06-07-1995<br>25-01-1994<br>31-01-1995<br>29-10-1994   |
| US 5698507                                | A | 16-12-1997          | NONE  |  |
| GB 2140819                                | A | 05-12-1984          | AT 394385 B<br>AT 178384 A<br>AU 558722 B2<br>AU 2831884 A<br>BE 899778 A1<br>BR 8402593 A<br>CA 1220741 A1<br>CH 660374 A5<br>DE 3418294 A1<br>DK 269084 A ,B,<br>FR 2546902 A1<br>GR 82007 A1<br>HK 67490 A<br>IE 58061 B1<br>IT 1177762 B<br>LU 85392 A1<br>MX 162796 A<br>NL 8401740 A<br>NO 842163 A ,B,<br>NZ 208156 A<br>PH 19081 A<br>PT 78653 A ,B<br>SE 8402869 A<br>SG 44890 G<br>US 4652394 A<br>ZA 8403665 A | 25-03-1992<br>15-09-1991<br>05-02-1987<br>06-12-1984<br>29-11-1984<br>23-04-1985<br>21-04-1987<br>15-04-1987<br>06-12-1984<br>01-12-1984<br>07-12-1984<br>12-12-1984<br>07-09-1990<br>30-06-1993<br>26-08-1987<br>21-03-1985<br>26-06-1991<br>17-12-1984<br>03-12-1984<br>12-11-1986<br>19-12-1985<br>01-06-1984<br>01-12-1984<br>17-08-1990<br>24-03-1987<br>24-12-1985 |
| WO 0129167                                | A | 26-04-2001          | AU 8024900 A<br>WO 0129167 A1   | 30-04-2001<br>26-04-2001   |